

CHANGE IN PRICING FLEXIBILITY USING THE THREE METHODS FOR COMPUTING THE 800 DATA BASE
RESTRUCTURE/EXOGENOUS COST CHANGE

EXAMPLE: BELL ATLANTIC TRANS. 560 - LOCAL TRANSPORT SERVICE CATEGORY

Existing PCI	93.7730
Proposed PCI	94.7171
PCI Change	0.010067

	<u>REVENUE</u>	<u>SBI</u>	<u>UPPER LIMIT</u>	<u>LOWER LIMIT</u>	<u>FLEXIB. UPPER</u>	<u>FLEXIB. LOWER</u>
<u>METHOD 1:</u>						
Existing	489,495,994	86.1298	94.6213	85.6098	48,259,356	(2,955,439)
After Restructure	484,616,910	86.1298	94.6213	85.6098	47,778,328	(2,925,981)
After Exogenous	489,495,994	86.9969	95.5740	86.4717	48,259,444	(2,955,360)

<u>METHOD 2:</u>						
Existing	489,495,994	86.1298	94.6213	85.6098	48,259,356	(2,955,439)
After Exogenous	489,495,994	85.1298	95.5739	86.4717	53,673,439	0
After Restructure	489,495,994	86.1298	95.5739	86.4717	53,673,439	0

<u>METHOD 3:</u>						
Existing	489,495,994	86.1298	94.6213	85.6098	48,259,356	(2,955,439)
After Exogenous	489,495,994	86.1298	94.6213	85.6098	48,259,356	(2,955,439)
After Restructure	489,495,994	86.1298	94.6213	85.6098	48,259,356	(2,955,439)

CHANGE IN PRICING FLEXIBILITY USING THE THREE METHODS FOR COMPUTING THE 800 DATA BASE
RESTRUCTURE/EXOGENOUS COST CHANGE

EXAMPLE: BELL ATLANTIC TRANS. 560 - INFORMATION SERVICE CATEGORY

Existing PCI	93.7730
Proposed PCI	94.7171
PCI Change	0.010067

	<u>REVENUE</u>	<u>SBI</u>	<u>UPPER LIMIT</u>	<u>LOWER LIMIT</u>	<u>FLEXIB. UPPER</u>	<u>FLEXIB. LOWER</u>
<u>METHOD 1:</u>						
Existing	70,383,488	102.1016	102.1199	92.3942	12,617	(6,691,774)
After Restructure	69,681,936	102.1016	102.1199	92.3942	12,491	(6,625,073)
After Exogenous	70,383,488	103.1296	103.1480	93.3244	12,560	(6,691,813)

<u>METHOD 2:</u>						
Existing	70,383,488	102.1016	102.1199	92.3942	12,617	(6,691,774)
After Exogenous	70,383,488	102.1016	103.1480	92.3244	721,360	(6,050,530)
After Restructure	70,383,488	102.1016	103.1480	92.3244	721,360	(6,050,530)

<u>METHOD 3:</u>						
Existing	70,383,488	102.1016	102.1199	92.3942	12,617	(6,691,774)
After Exogenous	70,383,488	102.1016	102.1199	92.3942	12,617	(6,691,774)
After Restructure	70,383,488	102.1016	102.1199	92.3942	12,617	(6,691,774)

Use of Levelization for Exogenous Cost Adjustments

When an exogenous cost adjustment is made to the price cap index (PCI), an incremental change in the PCI results, and the allowable revenue recovery increases (assuming a positive exogenous adjustment) by approximately the amount of the adjustment. The incremental increase in revenue recovery due to the change in the PCI is proportional to the base period "R" as the Δ PCI is proportional to the PCI.

In each succeeding year, unless a reversing exogenous adjustment is made, the incrementally higher PCI (which resulted from the exogenous adjustment) will permit the recovery of approximately the amount of the original exogenous adjustment. In addition, even if the PCI undergoes no further changes, increasing demand will cause increasing revenue recovery from that original incremental increase in the PCI because the base period "R" increases.

Levelizing has some appeal within a closed system where both cost and demand can be controlled/manipulated over a finite period of time. A fundamental premise of levelization, however, is that total costs (i.e., the present value of total costs) remain the same throughout the relevant time period and that there is a fixed level of cost to be recovered in that time period. It is inappropriate, therefore, to introduce levelized costs into the price cap formula because increasing demand is built in.

The following supports the above mathematically:

$$PCI_t = PCI_{(t-1)} [1+w(GNP-PI-X) + \Delta Z/R]$$

$$PCI_{t(w \ Z \ adj)} = PCI_{(t-1)} [1+w(GNP-PI-X) + \Delta Z/R]$$

$$PCI_{t(w/o \ Z \ adj)} = PCI_{(t-1)} [1+(GNP-PI-X)]$$

$$PCI_{t(w \ Z \ adj)} - PCI_{t(w/o \ Z \ adj)} = PCI_{(t-1)} [1+w(GNP-PI-X) + \Delta Z/R] - PCI_{(t-1)} [1+(GNP-PI-X)] = PCI_{(t-1)} [(w-1)(GNP-PI-X) + \Delta Z/R]$$

and, where GNP-PI is equal to X

$$\Delta PCI = PCI_{(t-1)} * \Delta Z/R$$

$$\text{Revenue Effect}_{(year \ 1)} = R * (\Delta PCI)$$

$$\text{Revenue Effect}_{(year \ 1)} = R * PCI_{(t-1)} * \Delta Z/R = PCI_{(t-1)} * \Delta Z$$

Assuming the PCI undergoes no further change in succeeding years, and rates similarly remain unchanged, the only effect on the value of R in succeeding years will be the change in demand. Thus, if demand increases by, for example, 5% per year, R would likewise increase by 5% per year.

$$\text{Revenue Effect}_{(2)} = R_{(1)} * (1.05) * \text{PCI}_{(t-1)} * (\Delta Z / R_{(1)}) = (1.05) * \Delta Z * \text{PCI}_{(t-1)}$$

$$\text{Revenue Effect}_{(3)} = R_{(1)} * (1.05)^2 * \text{PCI}_{(t-1)} * (\Delta Z / R_{(1)}) = (1.05)^2 * \Delta Z * \text{PCI}_{(t-1)}$$

$$\text{Revenue Effect}_{(4)} = R_{(1)} * (1.05)^3 * \text{PCI}_{(t-1)} * (\Delta Z / R_{(1)}) = (1.05)^3 * \Delta Z * \text{PCI}_{(t-1)}$$

$$\text{Revenue Effect}_{(5)} = R_{(1)} * (1.05)^4 * \text{PCI}_{(t-1)} * (\Delta Z / R_{(1)}) = (1.05)^4 * \Delta Z * \text{PCI}_{(t-1)}$$

The sum of the present values of the revenue effects in each of the five years in this example would be about 10% higher than the total present value of the levelized annual costs (at an 11% discount rate).

$$\text{Present Value of } \Delta Z \text{ over 5 years} = 4.10244 * \Delta Z * \text{PCI}_{(t-1)}$$

$$\text{Present Value of } \Delta Z \text{ taken as exogenous adjustment with 5\% growth in base period demand} = 4.4887 * \Delta Z * \text{PCI}_{(t-1)}$$

This is demonstrated numerically below, using NYNEX numbers:

NYNEX 800 Data Base
Price Cap Data
(with Z adj)

GNPPI (Hypothetical to offset X)	3.30%
X	3.30%
GNPPI-X	0.00%
Y(t-1)	N/A
Delta Y	N/A
Delta Z (NYNEX exog adj net of overheads)	\$3,902,928
R(t-1)	\$1,488,604,919
Delta Y/R	N/A
Delta Z/R	0.00262187
W	0.99737813
W*(GNPPI-X)	0
Existing PCI - PCI(t-1)	99.1409%
Proposed PCI - PCI(t)	99.4008%

		Rev effect of exog adj levelized cost with 15% annual demand growth	
			PV @ 11%
Revenue effect (YR1) = $PCI(t-1) * \Delta Z$		\$3,869,398	\$3,869,398
Revenue effect (YR2) = $1.15 * PCI(t-1) * \Delta Z$		\$4,449,808	\$4,008,036
Revenue effect (YR3) = $1.15^2 * PCI(t-1) * \Delta Z$		\$5,117,279	\$4,153,298
Revenue effect (YR4) = $1.15^3 * PCI(t-1) * \Delta Z$		\$5,684,871	\$4,302,967
Revenue effect (YR5) = $1.15^4 * PCI(t-1) * \Delta Z$		\$6,767,601	\$4,458,029
	TOTAL	\$26,088,956	\$20,792,527
			5.373581987
		Intended revenue effect of levelization	
			PV @ 11%
YR 1		\$3,869,398	\$3,869,398
YR 2		\$3,869,398	\$3,485,944
YR 3		\$3,869,398	\$3,140,490
YR 4		\$3,869,398	\$2,829,270
YR 5		\$3,869,398	\$2,548,892
	Total		\$15,873,995
			4.10244569

Levelized methodology is by definition designed to recover costs having a present value of \$15,873,995 over 5 years. In a situation where demand is increasing, an exogenous adjustment of \$3,902,928 will produce more than that, i.e., \$20,792,597, as demonstrated above.

CERTIFICATE OF SERVICE

I, Judy Middleton, do hereby certify that on this 15th day of April, 1994, a copy of the foregoing "AT&T Opposition to Direct Cases" was mailed by U.S. first class mail, postage prepaid, to the parties listed on the attached service list.


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